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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,424	12/23/2003	Yunggyo Lee	031345	7516
23850	7590	08/29/2005	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			PRICE, CRAIG JAMES	
			ART UNIT	PAPER NUMBER
			3754	

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/743,424	LEE ET AL.	
	Examiner	Art Unit	
	Craig Price	3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because, the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b).

Drawings

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission to the prior art (APA) as shown in Figures 1 and 2, in view of Brown (4,273,153).

... APA discloses a safety valve operated by differential pressure, the valve comprises of a valve body (10), a valve disk (20), a central link (30), a link (40), an elastic member (50), the valve disk (20) being mounted on the valve body (10), the central link (30) being connected at one end to the valve disk (20), and opening and closing the valve, the link (40) being connected pivotally at one end to the central link (30), and making the central link (30) move according to rotation of the link (40) around a link pivot (42), the elastic member (50) being connected pivotally at one end to the link (40,45) and fixed pivotally at the other end (52), and making the link rotate around the link pivot (42) by elastic force of the elastic member (50), the member being mounted on the other end of the central link (30), except that a member attracted by a magnet. Brown teaches the use of a member (46) attracted by a permanent magnet (60), that are used with an elastic member (50), a valve body (20,12,14), and a valve disk (40),

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where the valve is being closed tightly without leakage by attractive force of the magnet with the elastic member.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Brown's magnet onto the frame of APA and Brown's member onto the central link of APA, in order to have a magnetic attraction force that holds the member firmly up in a closed position, as taught by Brown in Figures 1-4 and in (col. 5, ll. 19-22),

Regarding claim 2, APA discloses a gasket (15) located between the valve body (10) and the valve disk (20).

Regarding claim 3, APA discloses the elastic member is a spring (50).

Regarding claim 5, the claimed subject matter, "wherein the interval between the magnet and the member is 0.05-.015 mm when the valve is closed."

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have the interval of APA and Brown to be 0.05 –0.015 mm, because the applicant has not disclosed that having an interval of 0.05 – 0.015 mm provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the disclosed interval, between the magnet and the member, which provides a magnetic force that holds the valve firmly up in a closed position.

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Therefore, it would have been an obvious matter of design choice to modify the prior art as shown in Figure 1 and 2 in view of Brown to obtain the invention specified in claim 5.

Regarding claim 6, APA discloses the valve is used for a pressurization system in an unmanned airship.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Weidner (2,266,836), Maxwell (1,330,329), Gammeter (1,278,133), Gammeter (1,349,335), Sorensen et al. (2004/0177883), Eidsmore (4,624,443), Steinart et al. (6,273,136), and Mangano et al. (6,035,889) show similar differential valves and valves using magnets.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Price whose telephone number is (571) 272-2712. The examiner can normally be reached on 8AM - 5PM M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Nicolas can be reached on (571) 272-4931. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.


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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 23, 2005

CP

Craig Price
Examiner
Art Unit 3753



Frederick Nicolas
Primary Examiner



8/23/05